3.1.2 Growth

Growth inducement is defined as the measurable increase in population, housing, and/or employment that can be reasonably and directly attributed to the implementation of a proposed transportation project within a given area. The growth inducement assessment examines the relationship of the proposed project to economic and population growth or to the construction of additional housing in the project area. It focuses on the potential for a project to facilitate or accelerate growth beyond planned developments, or induce growth to shift from elsewhere in the region.

The growth inducement analysis utilized the "Forecast Methodology." Caltrans identifies this technique as the preferred methodology for assessing growth inducement because it is the most quantitative and least speculative procedure available (Caltrans 1997). A brief explanation of this process is provided below.

The traffic forecasts for the Traffic Study (May 2011) were prepared with the use of the Orange County Transportation Analysis Model (OCTAM), The model incorporates multimodal analytical capabilities to analyze motorized, as well as nonmotorized, transportation and responds to changes in land use types, household characteristics, transportation infrastructure, and travel and auto operating costs.

OCTAM uses socioeconomic data to estimate trip generation and mode choice, as well as several submodels to address complex travel behavior and multimodal transportation issues.

The socioeconomic data used in forecasting traffic on I-405 include:

- Resident Population: Total persons, excluding institutionalized persons in Census-defined group quarters.
- Employed Residents: Total employed persons 16 years and over (including part-time workers, self-employed workers, and unpaid family workers).
- Median Income: Existing and future median household income normalized to 1989 dollars.
- Single-Family Dwelling Units (SDU): Occupied single-family detached housing units.
- Multiple-Family Dwelling Units (MDU): Occupied multiple-family housing units.
- Total Dwelling Units: Total occupied housing units.
- Household Size: Average persons per total occupied housing unit.
- Auto Ownership: Total number of vehicles available per household.

- Total Employment: All employees, including military personnel, civilian personnel, and self-employed.
- Retail Employment: All employees in occupation categories listed under Standard Industrial Classification (SIC) Division G, major groups 52-59.
- Service Employment: All employees in occupation categories listed under SIC Division I, major groups 70-89.
- Other Employment: Total Employment excluding Retail and Service Employment.
- School Enrollment: Total number of students attending public and private elementary, junior high, and high schools.
- University Enrollment: Total number of students attending major public and private colleges and universities.
- Zonal Area: Total acreage of zone.

A traditional four-step forecasting process was used in the OCTAM forecast modeling and included trip generation, trip distribution, modal choice, and trip assignment.

For the proposed project, a single demand forecast was prepared. Forecasts for each of the alternatives utilize the same total traffic volumes on a segment but redistribute volumes among the different lane types, as necessary.

3.1.2.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with NEPA, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 CFR 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

CEQA also requires the analysis of a project's potential to induce growth. CEQA guidelines (Section 15126.2[d]) require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

3.1.2.2 Affected Environment

The growth impact analysis is based upon the Community Impact Assessment (August 2011) and follows the First Cut Screening guidelines provided in Caltrans' Guidance for Preparers of Growth-Related, Indirect Impact Analyses (May 2006).

Population, Housing, and Land Use Trends

Data contained in the SCAG RTP Growth Forecast, adopted March 2008, provides information on current and forecasted (through year 2035) population and employment totals and growth trends for cities within the proposed project area, as well as Orange County (see Table 3.1.2-1). Additional analysis for the proposed project was conducted using the average annual growth rate from 2030 to 2035 to project population in 2040. The unincorporated areas of Orange County, which are primarily in south Orange County and are located outside of the proposed project area, are anticipated to grow more than 100 percent by 2040, while the remaining are anticipated to grow from 10 to 20 percent by 2040. The cities of Seal Beach and Westminster are anticipated to grow the least, at 10 percent.

Table 3.1.2-1: Population Growth Forecast within Cities/Communities Covering Project Study Area

	Year					Percent Increase from Year 2005 to 2040
County or City	2005	2015	2025	2035	2040	
Orange County	3,059,952	3,451,755	3,586,283	3,653,990	3,677,803	20
Los Angeles County	10,206,001	10,971,602	11,678,552	12,338,620	12,670,020	24
Long Beach	489,427	517,226	545,980	572,614	585,932	20
Costa Mesa	113,137	122,828	125,675	126,958	127,403	13
Fountain Valley	56,079	61,009	63,086	64,525	65,075	16
Garden Grove	171,001	185,265	190,409	192,532	194,639	14
Huntington Beach	200,349	217,822	222,569	225,815	226,833	14
Los Alamitos	11,917	12,831	13,124	13,312	13,502	13
Unincorporated Orange County (including Rossmoor)	118,994 (10,298*)	198,935	229,703	237,211	245,021	105
Seal Beach	25,190	27,115	27,570	27,871	27,696	10
Westminster	91,869	98,384	100,496	102,017	102,528	12
* Rossmoor population 2000 Census for reference.						

Source: Southern California Association of Governments (SCAG) 2008a, and Parsons 2011a.

The Regional Housing Needs Assessment (RHNA) is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan. The RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The current planning period is January 1, 2006, to June 30, 2014. Communities use the RHNA in land use planning, prioritizing local resource allocation, and deciding how to address identified existing and future housing needs resulting from population, employment, and household growth. The RHNA does not encourage or promote growth, but rather it allows communities to anticipate growth, so that collectively the region and subregion can grow in ways that enhance quality of life, improve access to jobs, promote transportation mobility, and address social equity and fair share housing needs.

Table 3.1.2-2 shows the total number of residential units allocated for communities covering the study area for the years 2005 through 2040. Communities covering the study area are almost entirely built out or contain few large, undeveloped parcels. Development opportunities are limited and largely include infill or redevelopment projects. Review of current project development lists at various cities covering the study area revealed that most of the projects currently under development or which have completed development applications under consideration include residential, commercial/office, mixed use (i.e., residential/commercial/ office), and light industrial. SCAG's adopted growth forecast analysis indicates that major land use trends within the immediate vicinity of the study area are expected to include: (1) expansion and/or conversion of light industrial uses to more intense industrial uses; (2) increased residential densities; expanded highway commercial uses; and (3) increased activity centers (SCAG and Orange County Council of Governments 2010).

Table 3.1.2-2: Regional Housing Need Allocation for Cities/Communities Covering Project Study Area (January 1, 2006 through June 30, 2014)

Jurisdiction	Total RHNA Allocation (dwelling units)
City of Costa Mesa	1,682
City of Fountain Valley	466
City of Garden Grove	560
City of Huntington Beach	2,092
City of Los Alamitos	41
City of Westminster	147
City of Seal Beach	57
Unincorporated Orange County (includes all unincorporated areas of Orange County, including the community of Rossmoor)	7,978

Source: SCAG 2007.

Job and Housing Balance

In 2001, SCAG prepared a report entitled *The New Economy and Jobs/Housing Balance in Southern California* (April 2001). The information and recommendations contained within the report were intended to "spur debates on how to better balance jobs with housing in the region." In addition, it was also prepared to "assist subregions and individual jurisdictions in the SCAG's region in their respective planning efforts to address the issue of jobs/housing balance."

SCAG defines the balance between jobs and housing as "a provision of an adequate supply of housing to house workers employed in a defined area (i.e., a community or subregion)." In addition, SCAG defines the jobs/housing balance as "an adequate provision of employment in a defined area that generates enough local workers to fill the housing supply." Within Orange County, the principal employment centers are located along major freeways within the northern and central portions of the county and include I-5, I-405, SR-91, SR-22, SR-57, and SR-55. The analysis contained within the report indicates that the Regional Statistical Areas (RSA) in which the study area is located (RSAs 19, 20, 21, 22, 35, 37, 38, 39, 42, and 44) are (1997 estimate) considered "very job rich or balanced."

The jobs/housing ratios for the cities and unincorporated communities covering the project study area are shown in Table 3.1.2-3.

Table 3.1.2-3: Jobs/Housing Ratio for Cities/Communities Covering Project Study Area

Jurisdiction	Jobs/Housing Ratio
City of Los Alamitos	3.06 (Greater employment to housing ratio)
City of Costa Mesa	2.15
City of Fountain Valley	1.15 (Balanced)
City of Garden Grove	1.07 (Balanced)
City of Huntington Beach	0.98
City of Hawaiian Gardens	0.96
City of Westminster	0.92
Unincorporated Orange County (includes all unincorporated areas of Orange County including the community of Rossmoor)	0.62
City of Seal Beach	0.60 (Greater housing to employment ratio)

Source: SCAG 2001.

As shown in Table 3.1.2-3, the jobs-to-housing ratio for the cities covering the project study area varies from 3.06 within Los Alamitos to 0.60 for Seal Beach. Los Alamitos exhibits a greater

employment-to-housing ratio, while Seal Beach reflects a greater housing-to-employment ratio. Based upon SCAG's jobs-to-housing ratio criteria, Fountain Valley and Garden Grove are considered balanced.

Transportation Planning to Accommodate Planned Infrastructure

Caltrans has implemented numerous improvements along this segment of I-405 in recent years. However, I-405 continues to be one of the most congested freeways in Orange County, carrying more than 300,000 vehicle trips in some sections each day; therefore, continuing improvements are required. Traffic volumes on I-405 are expected to increase approximately 35 to 40 percent, and the population in cities along the project corridor is expected to grow 11 percent by 2040.

To address these issues, many planning studies have been undertaken, including a recent MIS and a PSR/PDS for the portion of I-405 in Orange County between SR-73 and I-605. These studies determined that major corridor mobility issues are related to the following: (1) demand exceeds current capacity, resulting in significant travel delays during peak and some off-peak periods; (2) diversion of traffic is taking place onto arterials because the freeway is too congested during peak periods; (3) operational problems occur on the freeway, primarily because of physical bottlenecks; (4) there are a variety of interchange and ramp deficiencies; (5) some existing geometric and operational deficiencies; and (6) these conditions will be exacerbated over time.

Regional and local planning agencies, including SCAG and OCTA, have included planned improvements within their respective RTP and LRTP to address growth and mobility issues associated with this and other portions of I-405. Currently, only one transportation improvement project is committed within the study area: an additional HOV lane in each direction between SR-22 East and I-605, including HOV direct connectors at I-405/SR-22 East and I-405/I-605.

As noted previously, the proposed I-405 Improvement Project would address anticipated demand in several ways, including (1) add capacity and reduce congestion on the GP and HOV lanes along the entire I-405 corridor from SR-73 to I-605; (2) enhance interchange operations; (3) increase mobility, improve trip reliability, maximize throughput, and optimize operations; (4) implement strategies that ensure the earliest project delivery; and (5) enhance safety.

Existing and Proposed Facility Capacity, Level of Service, and Sizing Rationale

Previous project planning studies indicate there is insufficient capacity within the I-405 corridor (freeway and adjacent arterial streets) to accommodate existing and projected travel demands between the SR-73 interchange and the Los Angeles County line (just north of the I-605 interchange). In addition, sections of the I-405 corridor currently operate with unacceptable

levels of traffic congestion during peak periods. Factors that also contribute to these conditions are the variable number of lanes that are provided along segments of the freeway. For instance, from SR-73 north to Harbor Boulevard, I-405 has a single HOV lane and seven GP lanes. From there to Euclid Street, I-405 has a single HOV lane and six GP lanes in each direction, with numerous auxiliary lanes and braided ramps. North of Euclid Street, there are five GP lanes and a single HOV lane in each direction. North of Brookhurst Street to SR-22 East (near Valley View Street), there are four GP lanes and a single HOV lane in each direction. In the SR-22 overlap segment between Valley View Street and SR-22/7th Street, there are six GP lanes and a single HOV lane in each direction. North of the SR-22/7th Street ramps to I-605, there are five GP lanes and a single HOV lane in each direction.

An RCR (Caltrans 1999) prepared for I-405 in Orange County indicates that the following number of lanes are needed to reduce the duration of congestion: 12 to 14 lanes (excluding auxiliary lanes) on I-405 from SR-73 to Beach Boulevard; 12 lanes from Beach Boulevard to SR-22 East; and 12 to 16 lanes from SR-22 East to the Los Angeles County line. Due to ROW constraints, the maximum number of new lanes in the proposed build alternatives ranges from 2 to 4. As such, the total number of lanes would vary by segment of I-405, but they would generally range from 12 to 20 lanes. This would meet the recommended 12 to 16 lanes identified in the RCR.

OCTA and Caltrans have undertaken extensive planning, coordination, and outreach efforts to ensure that the facility maximizes public benefits while ensuring that design and operational needs are largely maintained within the freeway ROW.

With the anticipated future growth in Orange County, delay is expected to increase on I-405. Under existing conditions, traveling the approximately 14 miles of the project corridor from SR-73 to I-605 requires 13 to 37 minutes during the peak hours, depending upon the direction of travel and time of day. Under future no-project conditions, the peak-hour travel time in the I-405 corridor is projected to increase to a range of 95 to 163 minutes. Under existing conditions, the average peak-hour travel speed on the I-405 corridor in the GP lanes ranges from 22 to 54 mph during peak hours. Under future no-project conditions, the average peak-hour travel speed on the I-405 corridor in the GP lanes is projected to decrease to a range of 5 to 8 mph.

With the forecast future growth of traffic volumes in the I-405 corridor, the LOS is expected to degrade further.

3.1.2.3 Environmental Consequences

Permanent Impacts

Direct growth inducement is generally regarded as providing urban services and extending infrastructure to undeveloped areas. Growth inducement is also possible if capacity enhancements are provided well beyond expected or planned growth in demand.

No Build Alternative

Under the No Build Alternative, existing project conditions would remain, and no growth-related impacts would occur; however, congestion in the existing travel lanes would continue to increase and facility operation would continue to degrade. Continued congestion along this highway corridor and associated regional systems could hinder implementation of other redevelopment and transportation plans that rely upon access to and from highway corridors.

Build Alternatives

In terms of accessibility, the build alternatives do not change points of accessibility along I-405 or provide new access to the area. The proposed project is intended to provide lane capacity enhancements through the corridor to reduce existing and future delay. It would not accommodate additional traffic beyond what is currently projected with or without the project; however, many access-related beneficial effects to system users would result via travel time savings. Lane additions and ramp, interchange and other planned system improvements would enhance the efficiency of I-405 by maximizing its capacity, thereby reducing travel time delays. These system improvements are anticipated to result in local and regional benefits to users. Local benefits would include increased access to jobs, services, and community facilities. Reduced cut-through traffic within adjacent neighborhoods would improve quality of life and safety. With improved freeway speeds and operation of I-405, users would be less likely to exit the system, thereby reducing the number of vehicles using the local roadway network to complete their trip. These reductions could result in improved roadway operation and reduced travel delays to area residents. Regionally, a more efficient freeway system would reduce the number of delays to connecting freeways by better managing traffic flow. These improvements would also benefit goods movements by ensuring that travel times are more predictable and would allow more-efficient planning of shipment deliveries.

In terms of accessibility, Alternative 3 would provide the greatest improvements because it would add one GP lane in each direction of I-405 from Euclid Street to the I-605 interchange (as in Alternatives 1 and 2), plus add a tolled Express Lane in each direction of I-405 from SR-73 to SR-22 East. The tolled Express Lane and the existing HOV lanes would be managed jointly as a tolled Express Facility with two lanes in each direction from SR-73 to I-605. The objective is to

open the tolled Express Lanes with a HOV2+ occupancy free to encourage rideshare and transit usage. Operational adjustments to the tolled Express Lanes may be implemented based on demand, rates of speed, traffic volumes, and to meet financial covenants, maintenance and operational obligations. Potential operational adjustments include, but are not limited to:

- adjusting to HOV3+ free with HOV2s discounted tolls
- adjusting to HOV3+ free with HOV2s full tolls
- adjusting to tolling HOV2s on individual tolling segments such as direct connectors to or from other freeways
- periodic adjustments of tolling rates to maintain operations on individual tolling segments

These improvements provide the greatest system efficiency and travel time savings compared to those proposed for Alternatives 1 and 2. In addition, Alternative 3 would allow transit operators to utilize the tolled Express Lanes at no cost, thereby reducing commute times during peak-hour or congested conditions. Commercial and noncommercial vehicles would also have access to these tolled Express Lanes, which would reduce congestion in the adjacent GP lanes.

In terms of influencing growth, the project area is highly urbanized and built out, containing few vacant or underdeveloped parcels. Reasonably foreseeable project-related growth or its influence on growth in the area is not anticipated. The primary effect of the proposed project would be increased access and not growth because it does not encourage or remove an impediment to growth and is not a precedent-setting action.

In terms of project-related growth, the project is not growth inducing because it does not include land uses or activities that would encourage development or attract additional businesses or people. In addition, the location, timing, and level of future growth in the study area would also depend on the availability of certain types of infrastructure/services (e.g., water, sanitary sewers, schools). Plans for critical future infrastructure are addressed by the individual jurisdictions and agencies providing these services to existing and future development, and their availability would affect the location, level, and timing of future development regardless of the proposed project. Because the proposed transportation improvements partially accommodate existing development, the proposed project would have no substantial potential for stimulating the location, rate, timing, or amount of growth locally or regionally. Moreover, the amount of vacant land or land ready for development within the study area is extremely limited (e.g., 213 acres within Costa Mesa, 472 acres within Huntington Beach), representing 2 to 5 percent.

The project does not remove an impediment to growth because the project would not provide an entirely new public facility. Rather, it includes capacity enhancements along an existing freeway

corridor that are intended to respond to expected demand and improve access. The more effective use of freeway capacity is a response to congested conditions that have arisen from past development trends. Future growth, as approved in the context of adopted regional and local plans, requires such management approaches to attempt to maintain acceptable LOS on the transportation system.

In terms of foreseeable impacts to resources of concern, the project is not a precedent-setting action and would not affect resources of concern (e.g., utilities, population, and housing) because land use plans for the area include plans for future growth. Service providers also regularly evaluate growth trends and provide required infrastructure upgrades, as needed. As noted above, the proposed project would facilitate the improved mobility and accessibility for future conditions and would not result in project-related growth or influence growth.

Given the constrained level of access already experienced in the study area, development or redevelopment of existing parcels would completely be driven by market conditions, economics, and local land use approvals. The economic attractiveness and location of the study area are the dominating conditions influencing growth, overshadowing freeway improvements.

The "first cut screening" analysis above demonstrates that the proposed project would not change access but would instead facilitate mobility to jobs, services, and community facilities by improving commute times for users. It would also improve local roadway efficiency by reducing cut-through traffic within the adjacent communities and improve quality of life. The regional freeway network would also benefit from reduced delays, and goods movements could be better planned. Resources of concern would not be affected because the proposed project is not growth inducing and would not result in reasonably foreseeable growth. Based upon the analysis above, the proposed project does not require further analysis of growth-related impacts.

Temporary Impacts

No Build Alternative

No temporary impacts related to growth inducement would occur because the proposed project would not be constructed under this alternative.

Build Alternatives

No temporary impacts related to growth inducement would occur because no change in land use or zoning along the project corridor would be required, nor would there be unacceptable intrusive impacts on adjacent land uses during the construction period such that current land uses could not remain. In addition, construction activities would largely be confined to the I-405 ROW; therefore, intrusion on surrounding land uses would be minimal.

Indirect Impacts

Indirect or secondary growth-inducing impacts consist of growth induced in the region by the additional demands for housing, employment, and goods and services associated with population increase caused by or attracted to new development. Projects contained within Table 3.6-1 would occur regardless of implementation of the proposed project. As noted above, the proposed project does not have the potential to change land uses or induce growth but instead would provide increased lane capacity along I-405; therefore, it would improve accessibility for system users.

No Build Alternative

Under the No Build Alternative, existing conditions would remain, and no growth-related impacts would occur.

Build Alternatives

The build alternatives are intended to reduce congestion during peak periods along a 16-mile portion of I-405. They may also assist in increasing mobility, which is anticipated to be otherwise reduced, based upon regional growth estimates adopted by SCAG for the study area. In this growing segment of Orange County, population growth is forecasted to increase from 10 to 20 percent by 2040. With population growth, the area and region are also anticipating an increased flow of material goods on roadways, higher auto ownership rates, and declined funding from Measure M2 Funding and gas tax revenues and state and federal transportation funding. This proposed project is expected to help manage congestion by accommodating peak-period highway traffic by adding lanes along this portion of I-405. This congestion management tool is anticipated to improve mobility in this corridor of Orange County.

The build alternatives would be compatible with existing and planned land uses because they do not propose any land use or zoning changes in the project study area (or can be accommodated by administrative land use remedies) and are located along an existing transportation corridor. Surrounding land uses already coexist with I-405 and are presumably accustomed to the general effects of such a facility. The alternatives would not conflict with land use plans for the project study area; rather, they would be beneficial to the land use plans that call for improved traffic conditions in their respective communities. No inconsistencies with planned land use are expected.

3.1.2.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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